



## United States Department of the Interior

FISH AND WILDLIFE SERVICE  
South Florida Ecological Services Office  
1339 20<sup>th</sup> Street  
Vero Beach, Florida 32960

May 10, 2001



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JACKSONVILLE DISTRICT  
USACE

Brice McKoy  
Project Manager  
Corps of Engineers  
Jacksonville District  
400 North Congress Avenue, Suite 130  
West Palm Beach, FL 33401

Log No.: 4-1-00-I-497  
Application No.: 200000380 (IP-DSG)  
Dated: March 22, 2000  
Applicant: Town of Palm Beach.  
County: Palm Beach County

Dear Mr. McKoy:

The Fish and Wildlife Service (Service) has reviewed your letter of April 11, 2001, and the attached materials submitted on behalf of the applicant referenced above. In our May 5, 2001, letter, the Service recommended denial of this project because there was not enough information concerning the project purpose, and it did not appear that the applicant abided by the 404(b)(1) Guidelines. Additionally, we felt that the proposed mitigation was inadequate to offset the loss of nearshore hardbottom and the functions they provide for aquatic resources. This letter is in response to information presented by the applicant's agent.

The applicant is proposing to place approximately 10,032 feet (1.9 miles) of fill in waters of the United States along Phipps Ocean Park Beach. The total area of fill will impact approximately 78 acres of marine intertidal, unconsolidated shore and nearshore hardbottom. To compensate for unavoidable impacts to 5.17 acres of nearshore hardbottom, the applicant has proposed to construct 2.19 acres of artificial reef using stacked limestone boulders. The project site is located in the Atlantic Ocean from monument R-116 to R-1236, in sections 11, 14, and 23, Township 44S, Range 43E, Palm Beach County, Florida.

Beaches are highly dynamic systems that accrete and recede annually and over decades. Though we recognize that jetties and inlets influence beach dynamics, we question the project purpose of providing storm protection and controlling erosion threatening a recreational beach as described in the Public Notice. In its current condition, no man-made structures are in imminent threat of loss. In fact, as stated in our previous letter, placement of sand over the nearshore hardbottom may undermine the natural protection that the reefs provide against erosion. As it relates to the

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information presented to document that public use at Phipps Ocean Park Beach has "substantially diminished," we are unable to draw any conclusions with only two years of data.

We requested that the applicant develop a model of shoreline erosion indicating future conditions without the proposed project. In response, the applicant's agents used the coastal engineering model, GENESIS, to generate a "no-action" alternative among other scenarios.

The ability of a mathematical model such as GENESIS to predict beach behavior is dependent upon the quality of data for setting initial conditions, the input parameters, and the calibration (Young 2001). In this case, the number of data points of historical shoreline width within the project area is limited. This may explain the dramatic difference between the 16-year historical trend and the model's "no-action" scenario in the vicinity of the Florida Department of Environmental Protection (FDEP) monument R-121. The resulting "no-action" scenario graph (labeled Figure 2, on page 17) shows a recession of 175 feet of the shoreline within an eight-year period from the 1999 baseline. Conversely, FDEP's historical shoreline data for monument R-121 compiled from 1974 to 1990 indicate that the beach has accreted approximately 51 feet (Table 1, page 4).

For mitigation, the applicant is proposing 2.19 acres of artificial reef to compensate for 5.04 acres of hardbottom impact. The amount of compensation was developed through time averaging the areal extent of exposed hardbottom based on six photographs over a 16-year period. Two of the six photographs were taken during the winter months when hardbottom acreage would be expected to be greater. Time averaging is an unprecedented method of determining a mitigation requirement and is insufficient to establish habitat availability throughout the year. We believe it may under-represent the amount of habitat available, and therefore, the amount of compensation necessary to offset for the functions lost from this project. We suggest that the acreage of the mitigation should be based on the acreage of hardbottom lost at the time of impact.

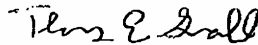
It has come to our attention that this beach renourishment project is one of several that are under construction or currently proposed which would affect over 90 miles of beach along Florida's coasts. These projects are similar in nature, occur in close proximity to one another, and share common timing. For these reasons, we suggest this project should be considered in a Programmatic Environmental Impact Statement.

In view of the issues surrounding the project purpose and the adequacy of the mitigation, we are unable to withdraw our current objection. Thank you for allowing us to provide these comments. We are available to meet with agency representatives and the applicant to resolve outstanding

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resource issues associated with this project. If you have any questions, please contact Spencer Simon at (561) 562-3909, extension 226.

Sincerely yours,



✓ James J. Slack  
Field Supervisor  
South Florida Ecological Services Office

cc:

NMFS, Miami, FL (Mike Johnson)  
EPA, West Palm Beach, FL (Beth Burger)  
FWCC, Tallahassee, FL (Robbin Trindell)  
FDEP, Tallahassee, FL (Keith J. Mille)  
Palm Beach County ERM, West Palm Beach, FL

Literature Cited

Young, R.S. 2001. Problems With Using Mathematical Models to Predict Beach Behavior for Coastal Engineering. GSA Southeastern Section 50<sup>th</sup> Annual Meeting.